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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,404	06/21/2002	Manfred Ruoff	R 37014	4972
7590	10/01/2004		EXAMINER RIVELL, JOHN A	
Walter Ottesen Patent Attorney P O Box 4026 Gaithersburg, MD 20885-4026			ART UNIT 3753	PAPER NUMBER

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/089,404	Applicant(s) RUOFF ET AL.
	Examiner John Rivell	Art Unit 3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/21/02 (app, IDS) 9/8/04 (IDS).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06212002, 09082004</u> . | 6) <input type="checkbox"/> Other: _____ |

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By preliminary amendment filed concurrently with the application claims 1-12 have been canceled in favor of newly added claims 13-24.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "said high-pressure pump" in line 8. There is insufficient antecedent basis for this limitation in the claim. The rejections below rely on the above recitation to read -- said high pressure feed pump --. The remaining claims are included due to dependency.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13, 14, 19, 23 and 24 are rejected under 35 U.S.C. §102 (b) as being anticipated by Feild.

The recitation "for supplying fluid media to consumers of a fuel cell system including the fuel cells thereof and fuel conversion units" is a statement of intended use bearing no patentable weight.

The patent to Feild discloses "an arrangement... supplying fluid media to consumers... comprising: a feed pump unit; (read at the combination of low pressure pump 12 and high pressure pump 30); a controllable metering valve (read at any one of valves 42 connected to high pressure outlet conduit 36) interposed between said feed pump and said consumers (at A-I, A-II, A-III, etc.); feed pump unit including a high-pressure feed pump (30) and a low-pressure feed pump (12) for feeding (via connecting conduit 16, 22, 28) said high-pressure pump thereby ensuring that said media is free of possible air pockets" as recited.

Regarding claim 14, in Feild, "a portion of said consumers (at A-I, A-II, A-III, etc.) consume the same medium; and, wherein said arrangement further comprises a plurality of said controllable metering valves (42) connected downstream of said feed pump and operatively connected to respective ones of the consumers of said portion of said consumers" as recited.

Regarding claim 19, in Feild, "means for controlling the volume flow of said media" is read at needle valves 96.

Regarding claim 23, Field discloses "a supply tank (10) holding at least one of said media; a bypass line connected between said supply tank and said feed pump unit; and, a pressure controller connected in said bypass line" at either pressure regulator 18 or 32.

Regarding claim 23, in Feild, "said pressure controller (at 18 or 23) is controllable" as recited.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 15-18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feild in view of King et al.

The patent to Feild discloses all the claimed features with the exception of having the metering valve at valve 42 operating as a pulse width modulating valve, responsive to line sensed conditions and comparing sensed conditions to a "characteristic field" (e.g. lookup table) to generate correcting valve operating signals in a type of closed loop control scheme.

The patent to King et al. discloses that it is known in the art to employ a controlled valve at 10, operative by a pulse width modulating signal (column 5, lines 43-50) generated by a controller in response to the comparison of line sensed pressure conditions at pressure gauges 70, 71 and stored values of pressure in a "lookup table" (column 6, lines 36-4) for the purpose of precisely controlling the valve and thus the flow of fluid controlled thereby.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Feild a pulse width modulating operative

valve responsive to signals generated by a controller in response to the comparison of line sensed pressure conditions sensed by pressure gauges upstream and downstream of the controlled valve and stored values of pressure in a lookup table for the purpose of precisely controlling the valve and thus the flow of fluid controlled thereby as recognized by King et al. Regarding claim 17, the specific operating condition of a pulse width modulating valve of "greater than 10Hz" is considered to be an obvious design expedient related to the desired operating conditions rather than solving any particular problem nor providing any new and/or unexpected results.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feild in view of Reiser.

The patent to Feild discloses all the claimed features with the exception of having the feed pump speed controlled.

The patent to Reiser discloses that it is known in the art to employ a variable speed pump 34, in which the speed of the pump 34 is controlled in response to sensed pressure conditions in the conduit the pump operates in for the purpose of controlling the flow of fluid in the conduit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Feild a variable speed pump controlled by a controller in response to sensed pressure conditions in the conduit the pump operates for the purpose of controlling the flow of fluid in the conduit as recognized by Reiser.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (703) 308-2599. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Scherbel can be reached on (703) 308-1272. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Rivell
Primary Examiner
Art Unit 3753

j.r.